

REMARKS/ARGUMENTS

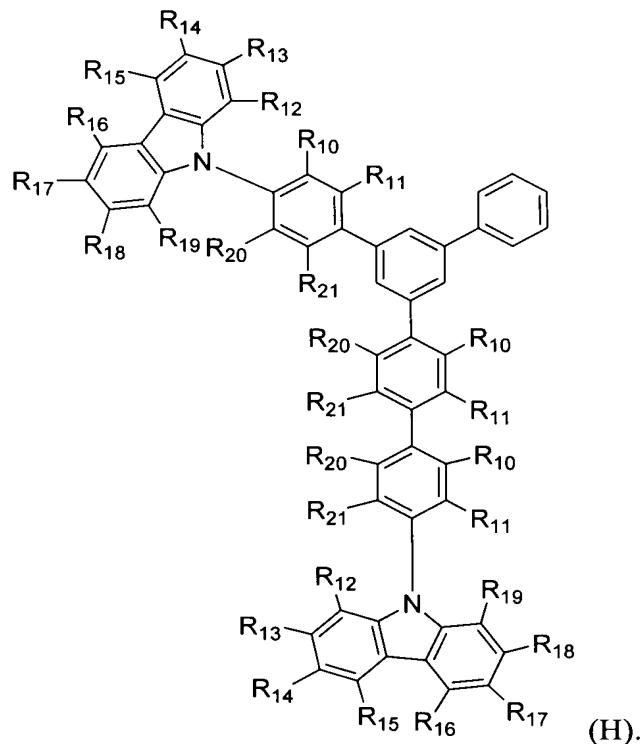
Claim 13 is new.

Amended Claims 1-12 are supported, respectively, at the correspondingly numbered original or previously presented claims. New Claim 13 is supported at Claim 1.

No new matter is added.

The objection to Claim 12 is traversed. Claim 12 is amended to replace the word “on” with the word “one,” thereby mooting the objection. Withdrawal of the objection is requested.

The obviousness rejection based on Hosokawa is traversed. The Office has failed to make a proper *prima facie* case of obviousness. The Office acknowledges that “Hosokawa does not specifically exemplify [a] compound as described above [i.e., the claimed compound in the claimed material].”¹ The Office nevertheless attempts to build a *prima facie* case by relying upon Hosokawa’s formula (4) core to build the following compound (H):²

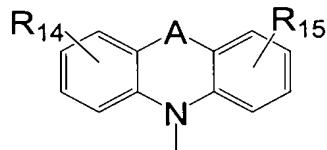


¹ See Official Action page 4.

² Id. See Also Hosokawa column 4.

Hosokawa further describes that “R₁₀ to R₂₁ are each independently an aryl group having 6 to 50 nucleus carbon atoms which may be substituted....; and groups adjacent to each other may form a cyclic structure.”³ Thus, each of R₁₂ to R₁₉ on Hosakawa’s carbazoyl groups in compound (H) *must* be substituted by an aryl group with adjacent aryl groups optionally forming a cyclic structure.

In contrast to Hosokawa, the carbazoyl groups in the molecule of formula (1) in the material of present Claim 1 bear, at most, 2 non-hydrogen substituents (R₁₄ and R₁₅ and A is a single bond):



Thus, the Office “constructs” Hosokawa Compound (H), but Hosokawa Compound (H) is not a species of the Claim 1 compound genus because it lacks all of the features of this genus. Accordingly, the Office’s *prima facie* case fails because the Office has not shown that Hosokawa describes or suggests⁴ all of the claimed compound features. Further, The Federal Circuit has held that in obviousness cases based on structural similarity, it is a requirement that the “‘prior art’ would have suggested making the specific molecular modifications necessary to achieve the ‘claimed invention’.”⁵ The Office has not demonstrated where Hosokawa makes this required showing. Withdrawal of the obviousness rejection is requested on this basis alone.

³ See Hosokawa, column 4, lines 40-45.

⁴ “Obviousness requires a suggestion of all limitations in a claim.” See CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing In re Royka, 490 F.2d 981, 985 (CCPA 1974)).

⁵ See Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd., 492 F.3d 1355, 1356 (Fed. Cir. 2007).

Additionally, in the response to the previous Office Action, Applicants presented data showing that organic EL devices incorporating the claimed representative inventive materials display superior half lifetimes and current efficiencies. The Office, while acknowledging these superior (and in light of the cited references) unexpected results nevertheless asserts “rejected Claim 1 is significantly broader [in scope] than [the] examples in the specification.”⁶ The amendments to Claim 1 render the claims commensurate in scope with the results. Further, these results are superior and (in light of Hosokawa) unexpected. For example, the average half-lifetime of Hosokawa representative organic EL devices is 488 hours.⁷ In contrast, the average half-life of representative inventive EL device Examples 1 and 3-6 is 983.2 hours.⁸ Withdrawal of the obviousness rejection is requested on this basis alone.

The obviousness rejection based on Iwakuma is traversed. The Office acknowledges that Iwakuma “does not explicitly exemplify a compound as described above [i.e., the claimed compound in the claimed material].”⁹ The Office nevertheless attempts to combine various pieces of Iwakuma to arrive at a species within the claimed compound genus. Applicants submit the Office has not provided sufficient motivation to make the combination, so the rejection is improper. Withdrawal of the rejection is requested on this basis alone.

Additionally, in the response to the previous Office Action, Applicants presented data showing that organic EL devices incorporating the claimed representative inventive materials display superior half lifetimes and current efficiencies. The Office, while acknowledging these superior (and in light of the cited references) unexpected results nevertheless asserts “rejected Claim 1 is significantly broader [in scope] than [the] examples in the

⁶ See Official Action page 8.

⁷ See Hosokawa, columns 29-30, Examples 1-9.

⁸ See specification page 108, Table 1, representative Examples 1 and 3-6.

⁹ See Official Action page 4.

specification.”¹⁰ The amendments to Claim 1 render the claims commensurate in scope with the results. Further, these results are superior and (in light of Iwakuma) unexpected. For example, the average half-life of representative inventive EL device Examples 1 and 3-6 is 983.2 hours.¹¹ Iwakuma does not describe or suggest this result. Withdrawal of the obviousness rejection is requested on this basis alone.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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¹⁰ Id. at page 8.

¹¹ See specification page 108, Table 1, representative Examples 1 and 3-6.